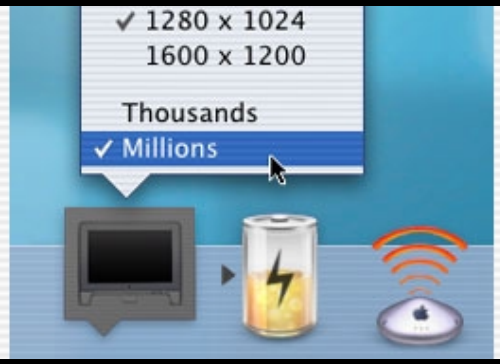
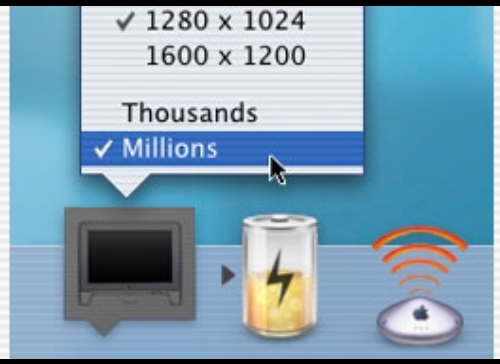
Session 500

Java Overview



Alan Samuel
Java Technology Manager
Worldwide Developer Relations

Java Overview



Steve Naroff
Senior Director and Dynamic Object Dweeb,
Java Technologies and Core Tools

Java Is 6 years Young…

- What has changed?
- What are our goals?
- What is our strategy?

What Has Changed?

No More Excuses :-)

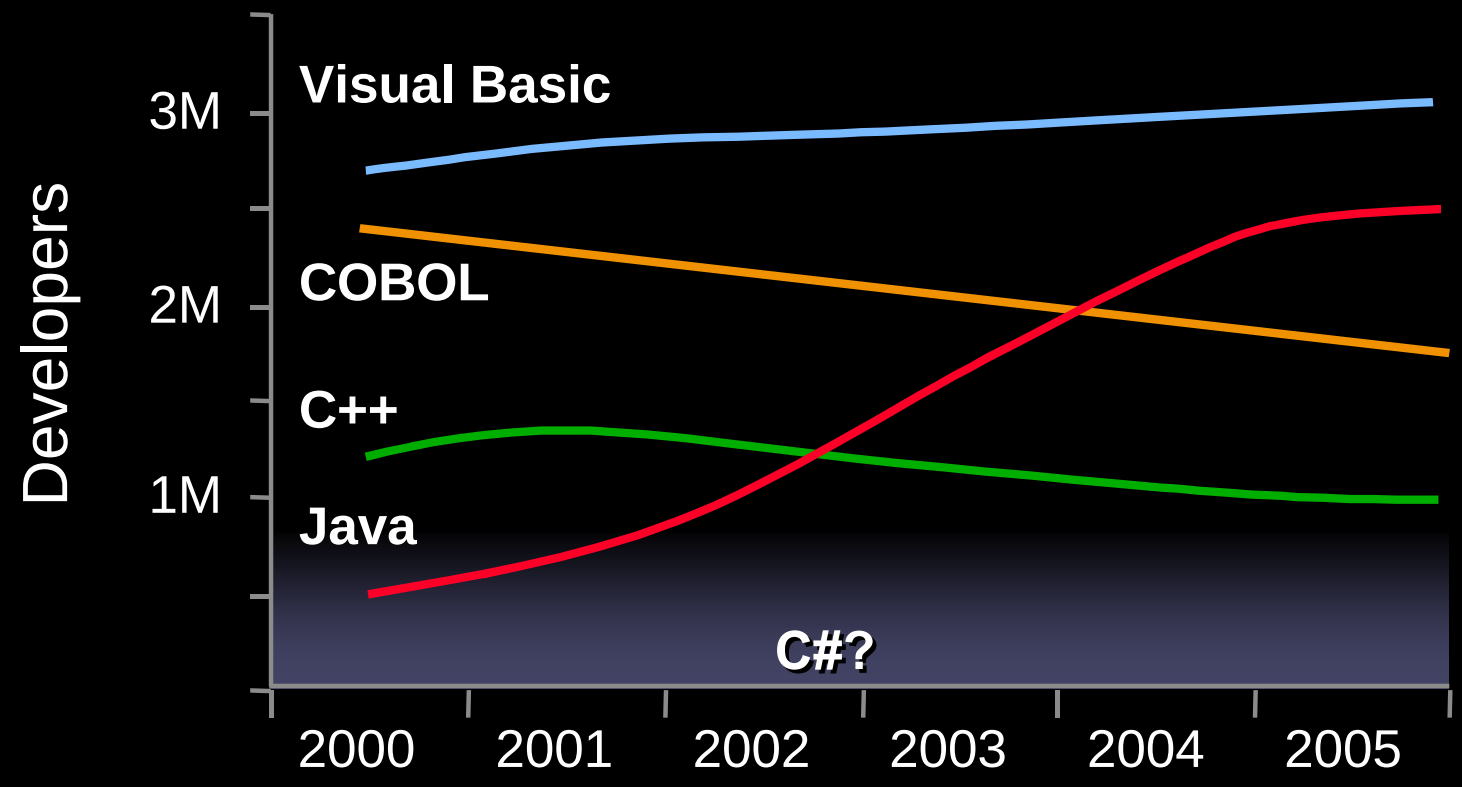
What Is Our Goal?

The #1 Desktop
for Deploying Java Applications

What Is Our Goal?

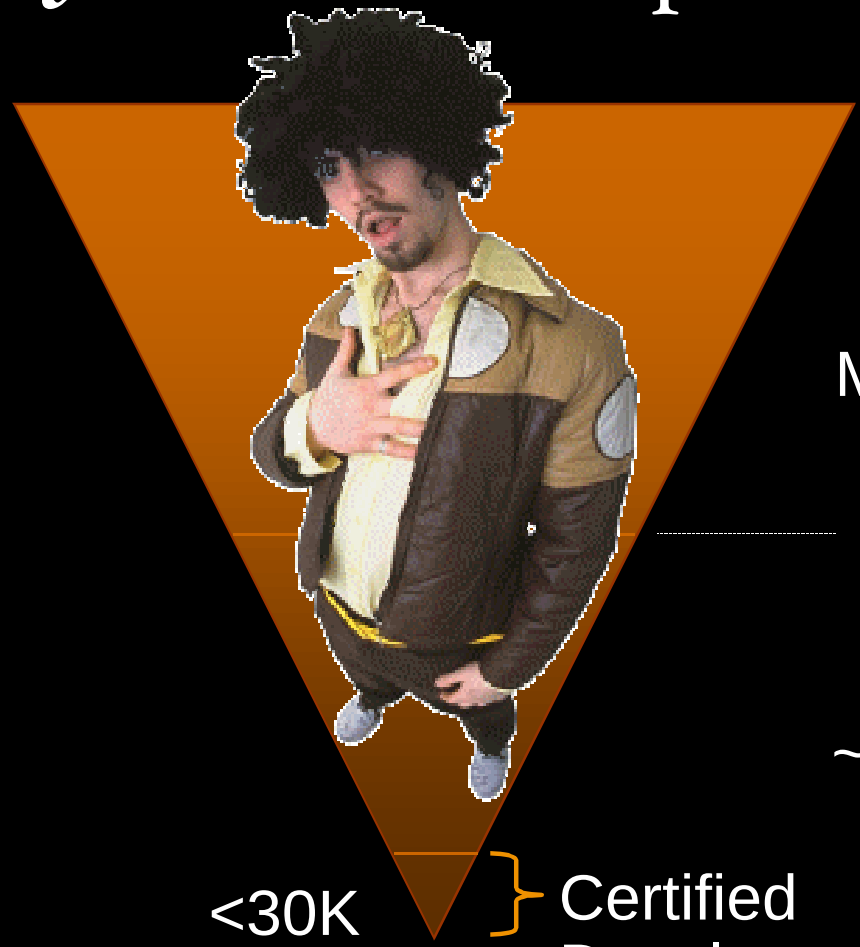
The #1 Desktop
for Developing Java Applications

Why? Developer Mind-Share



Gartner

Java Developers: Buyer Beware



1.75 Million

Hobbyists, Students and Casual Developers

~725K

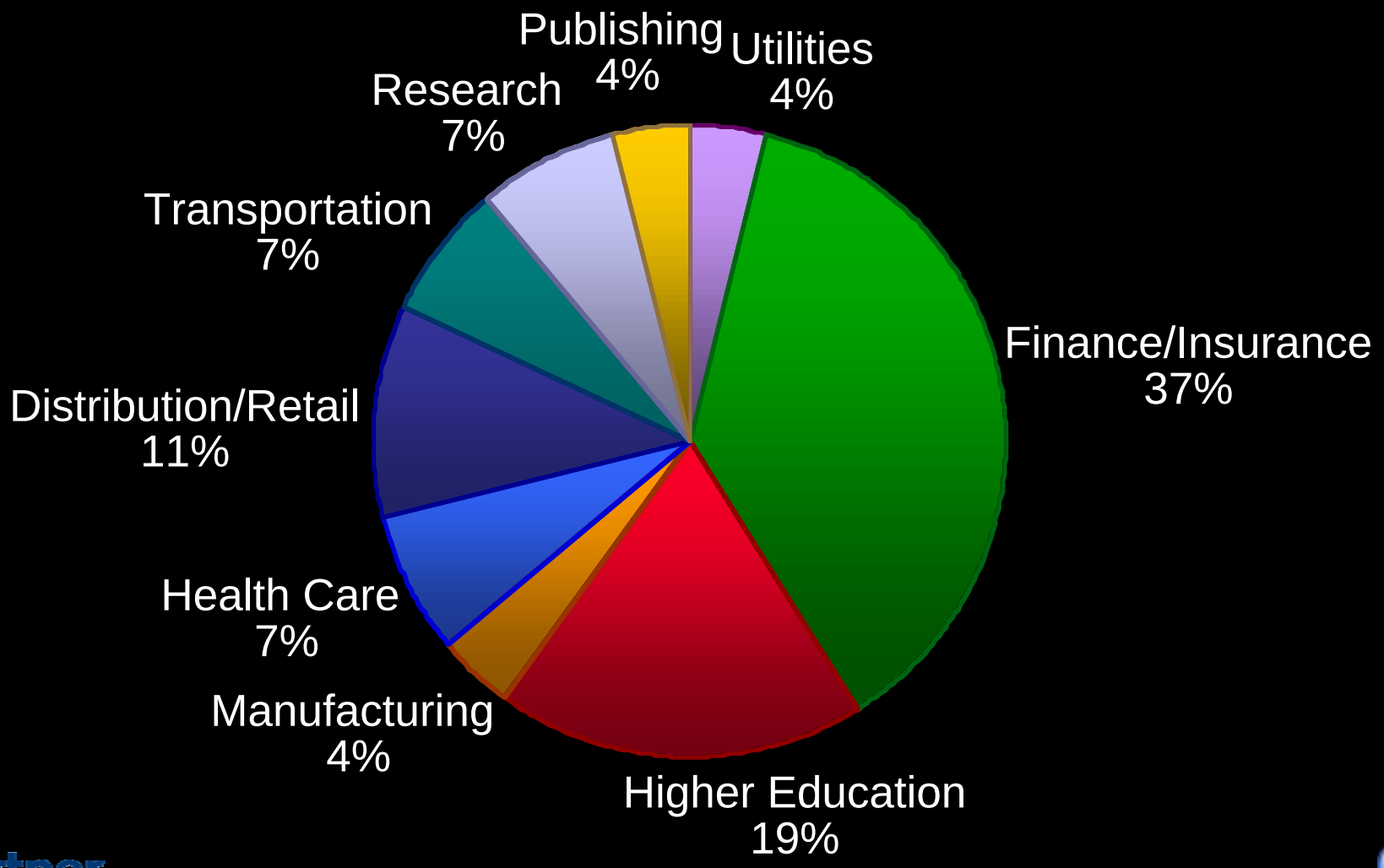
Qualified Professional Developers

<30K

Certified Developers

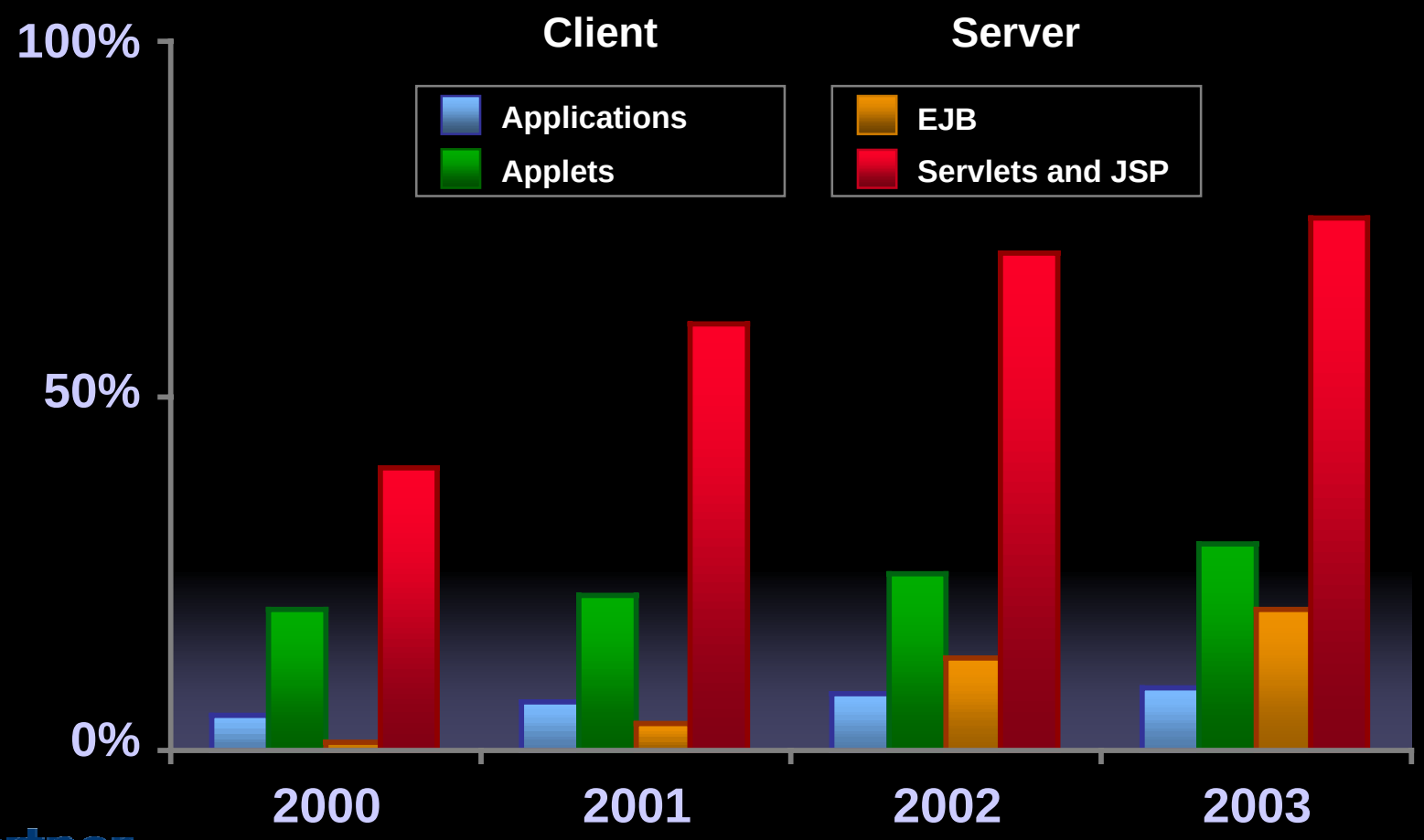
Gartner

Java Is Becoming Mainstream



Gartner

Java Technology Usage



Gartner

Java 2: Cross-Platform “Editions”

Enterprise

Standard

Micro

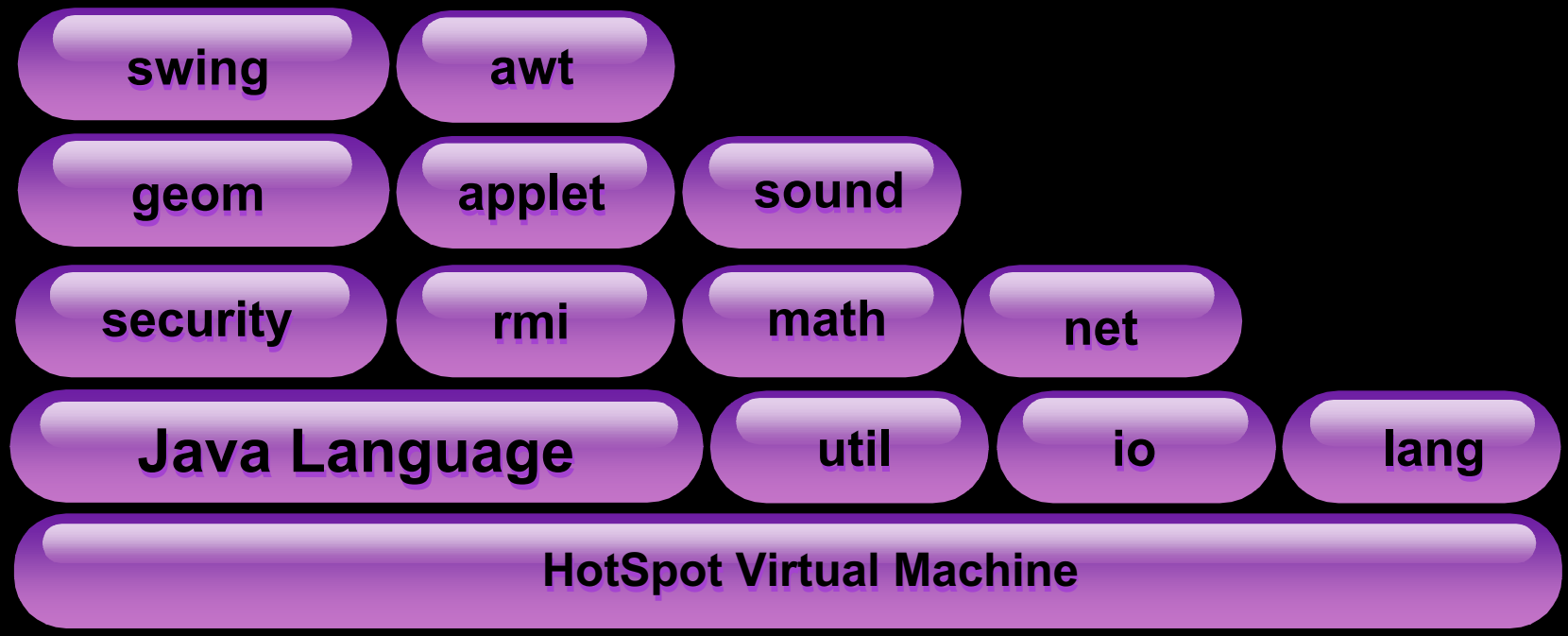
Java Language

HotSpot Virtual Machine

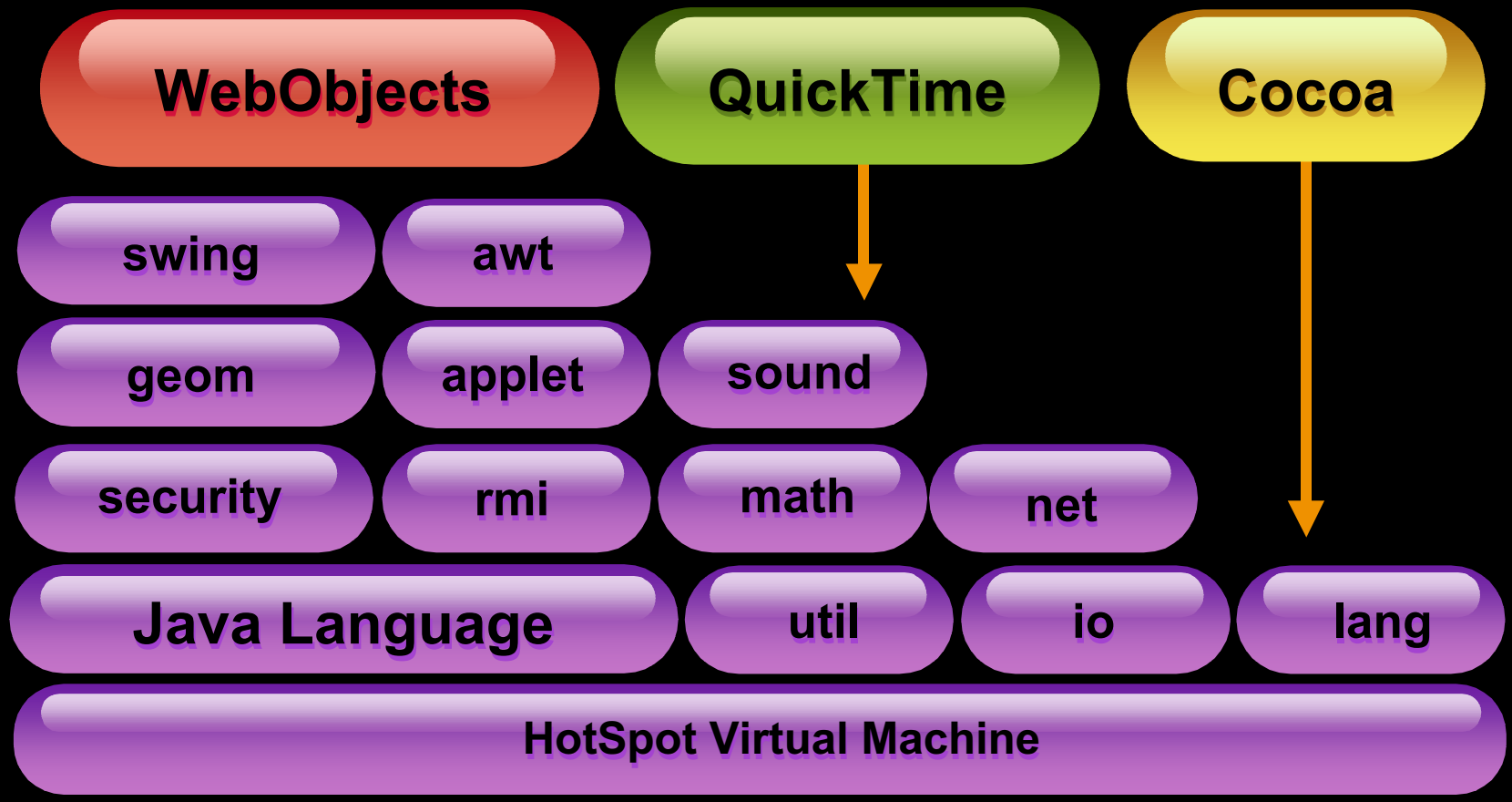
KVM

Card VM

J2SE: Sun Packages



Beyond J2SE: Apple Packages



Beyond J2SE: Integration

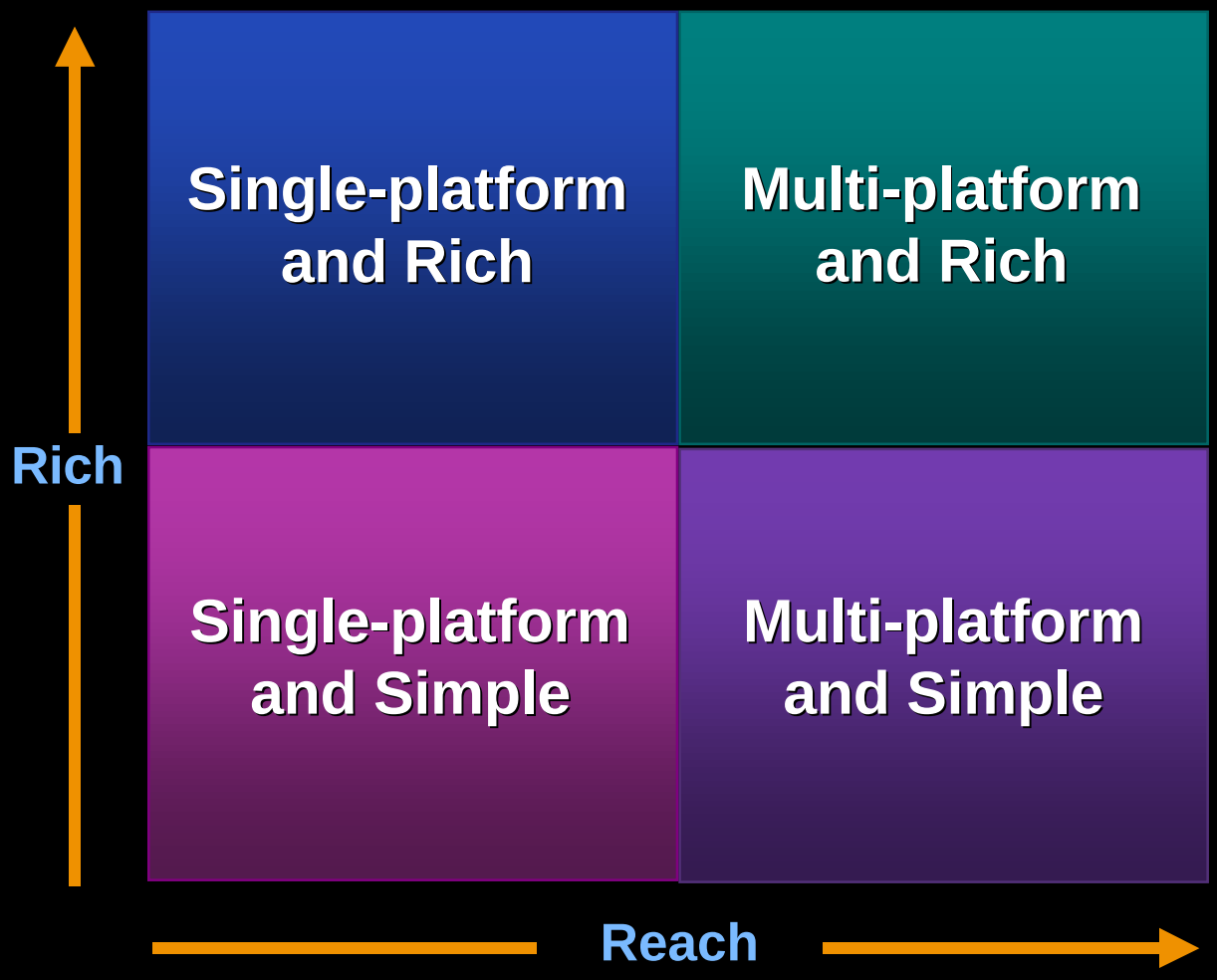
- Aqua Look and Feel
  - Swing looks great!
  - Menu placement
- Quartz 2D integration
- Out-of-the-box support!

Beyond J2SE: Integration

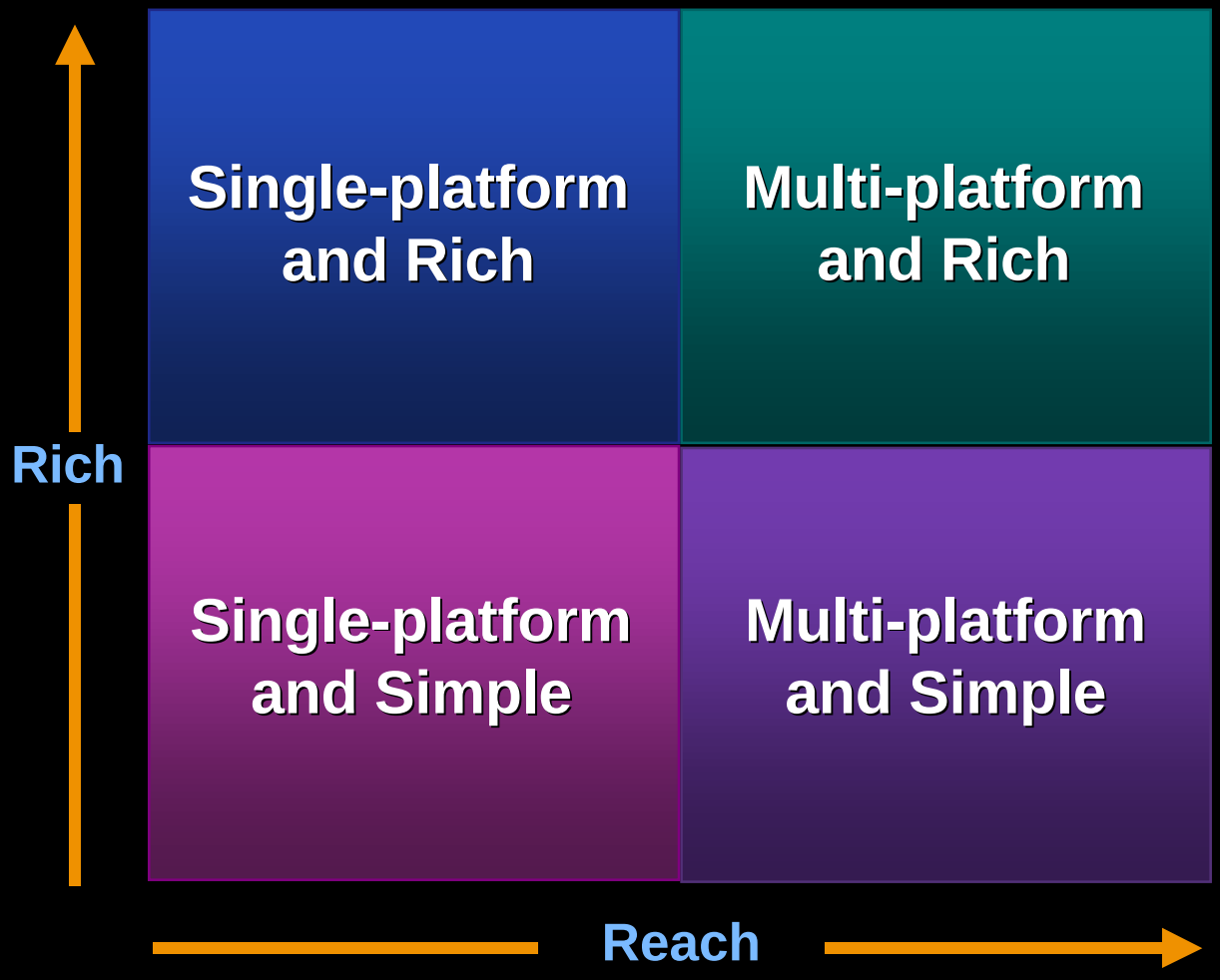
"Mac OS X is the only high volume personal computer operating system with out-of-the-box Java 2 integration"

—Tony de la Lama, VP and General Manager, Borland

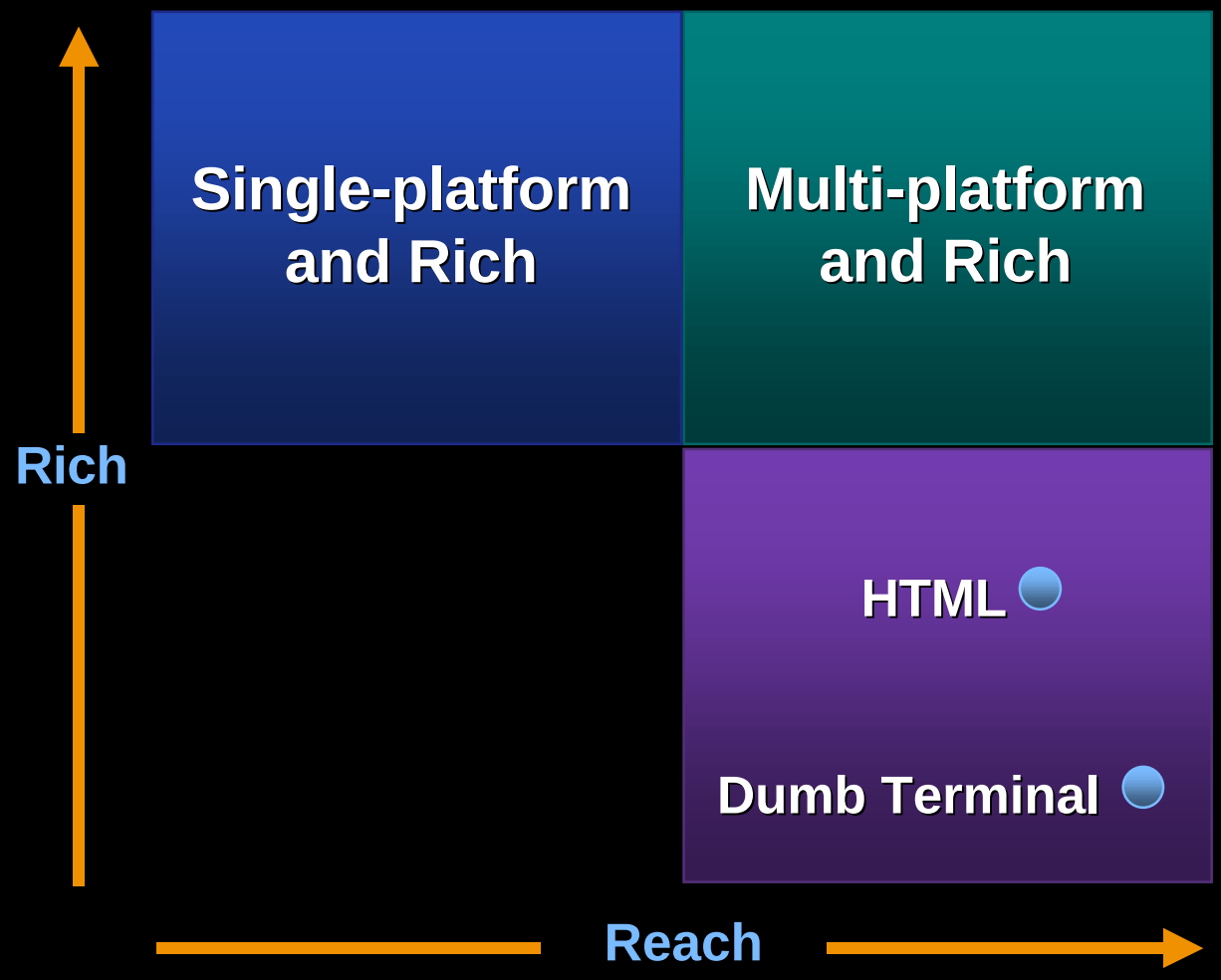
What Packages Should I Use?



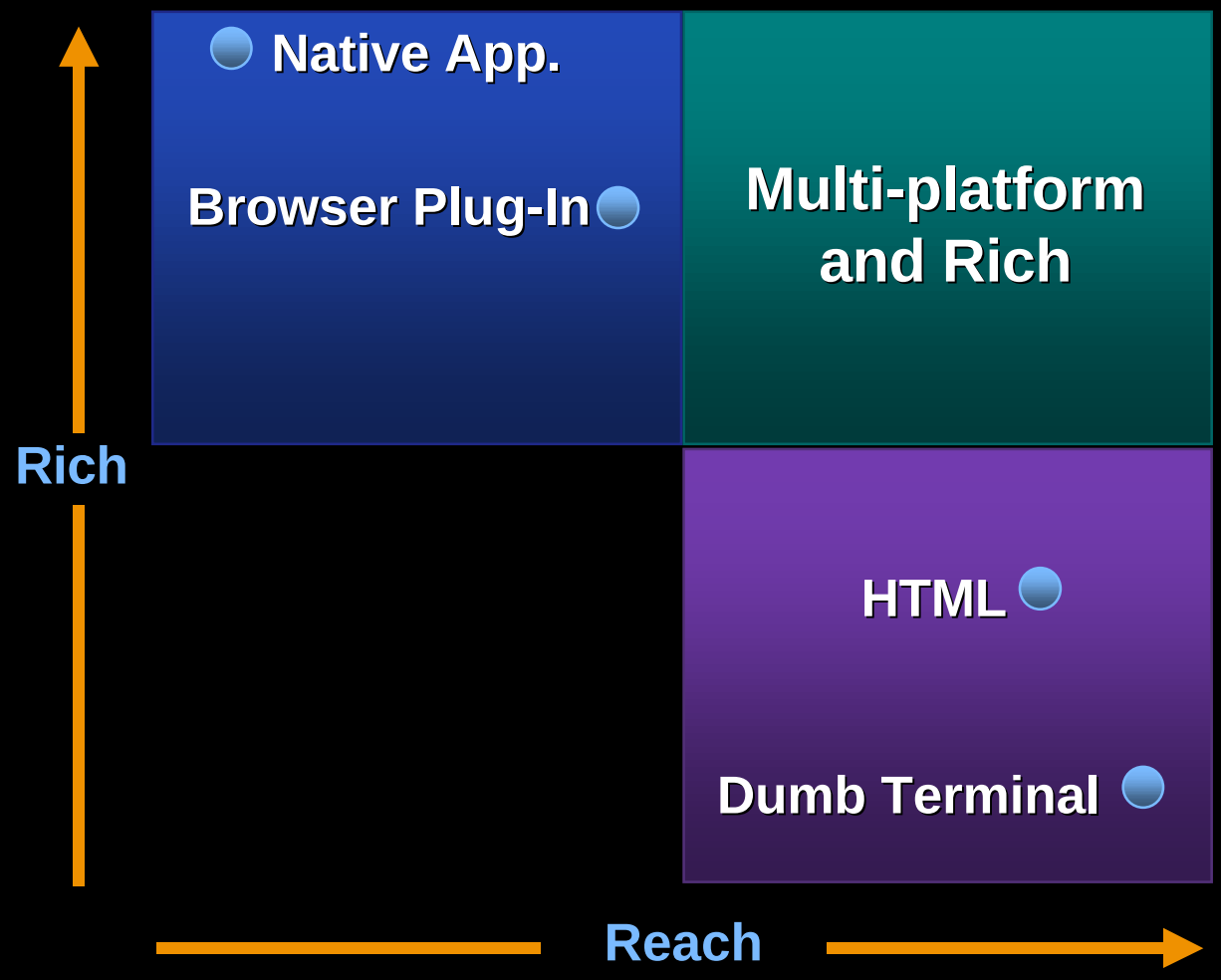
What “Box” Are You In?



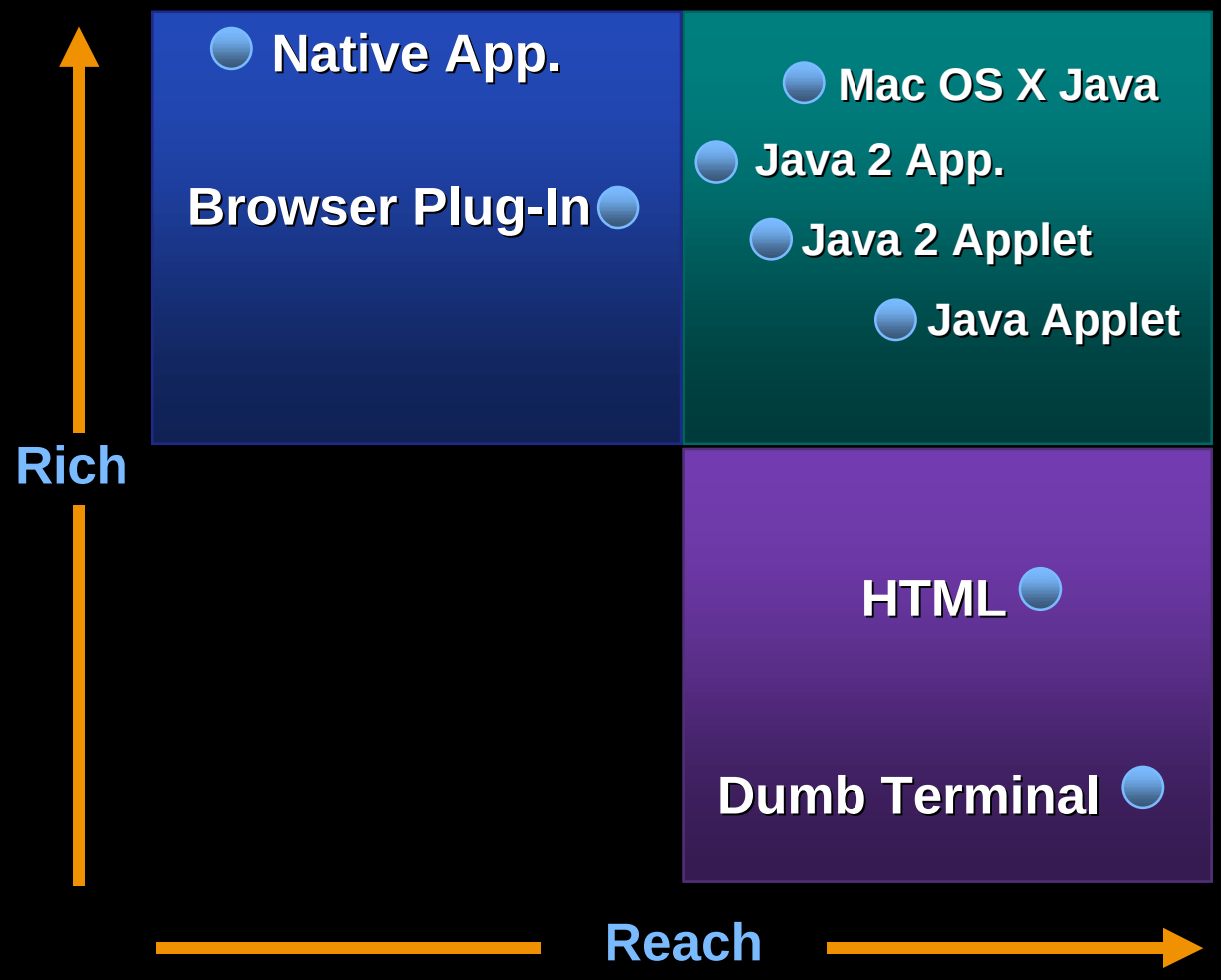
Multi-platform and Simple



Single-platform and Rich



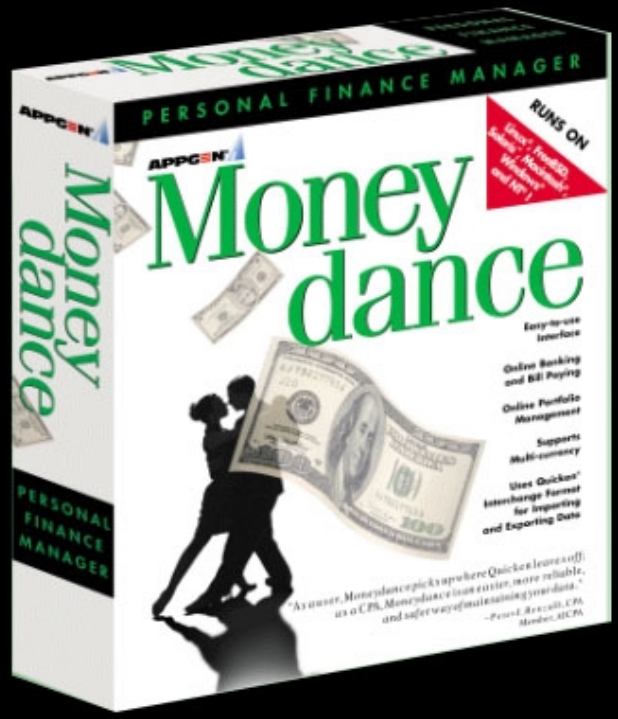
Multi-platform and Rich



Mac OS X—A Great Foundation

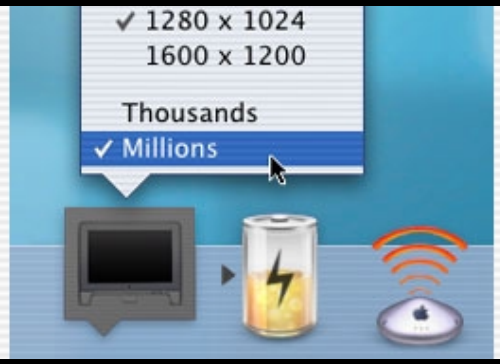
- Unix-based OS
- Preemptive multitasking
- Protected, Virtual Memory
- Multithreading

Deployed on Mac OS X



APPGEN®

Moneydance



Sean Reilly
Chief Technical Officer, Appgen Personal Software

Mac OS X Java Roadmap—2001

MacOS X GM

Java 1.3

March 24

IE PR2

Java Applets

May 21

Java DP1

Java 1.3
w/Applets
May 25

Apple Update

Java 1.3.1

July

May 17

Sun ships
Java 1.3.1

Mac OS X Java Roadmap—2001

2 month “delta”!

Apple Update

Java 1.3.1

July

May 17

Sun ships
Java 1.3.1

What's New in Java DP1?

- Applet embedding now works
- Many improvements to Aqua Swing L & F
- Debugging and profiling work well
- Many bug fixes

What's Left?

- Update to Java 1.3.1
  - New APIs
  - New HotSpot
- Performance and compatibility
  - JCK conformance
  - Fix bugs

Sun Extensions on the Horizon

- Anticipating v1.4
  - Java Secure Socket Extension (JSEE)
  - Java WebStart
- Java Media API's under discussion
  - Java 3D
  - Java Advanced Imaging (JAI)

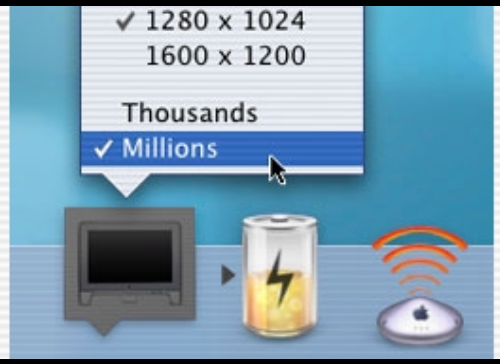
Java Secure Sockets Extension

- A pure Java implementation of SSL v3 and TLS
  - https-based URL's
  - socket-based connections
- Works on Mac OS X today!
  - See http://java.sun.com/products/jsse for downloading and installation
- You can bundle it in your application

Java WebStart

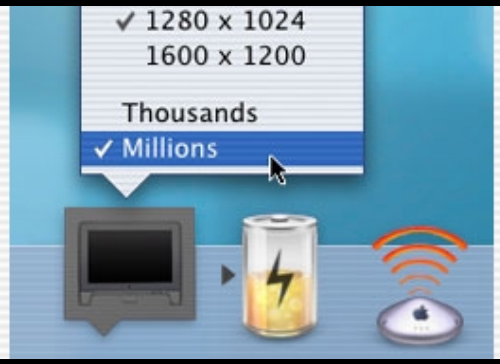
- One-click, Web-deployed applications
  - No ad-hoc download, install, and run
  - Transparent update
  - Access from anywhere
- Based on Java Network Launching Protocol (JNLP)
  - Web-based executable format (using XML)
  - Complements HTML

WebStart Demo



Steve Lewallen
Senior Engineer, Java Stuff

Apple/Sun Partnership



Larry Abrahams
Director, Java 2 Standard Edition

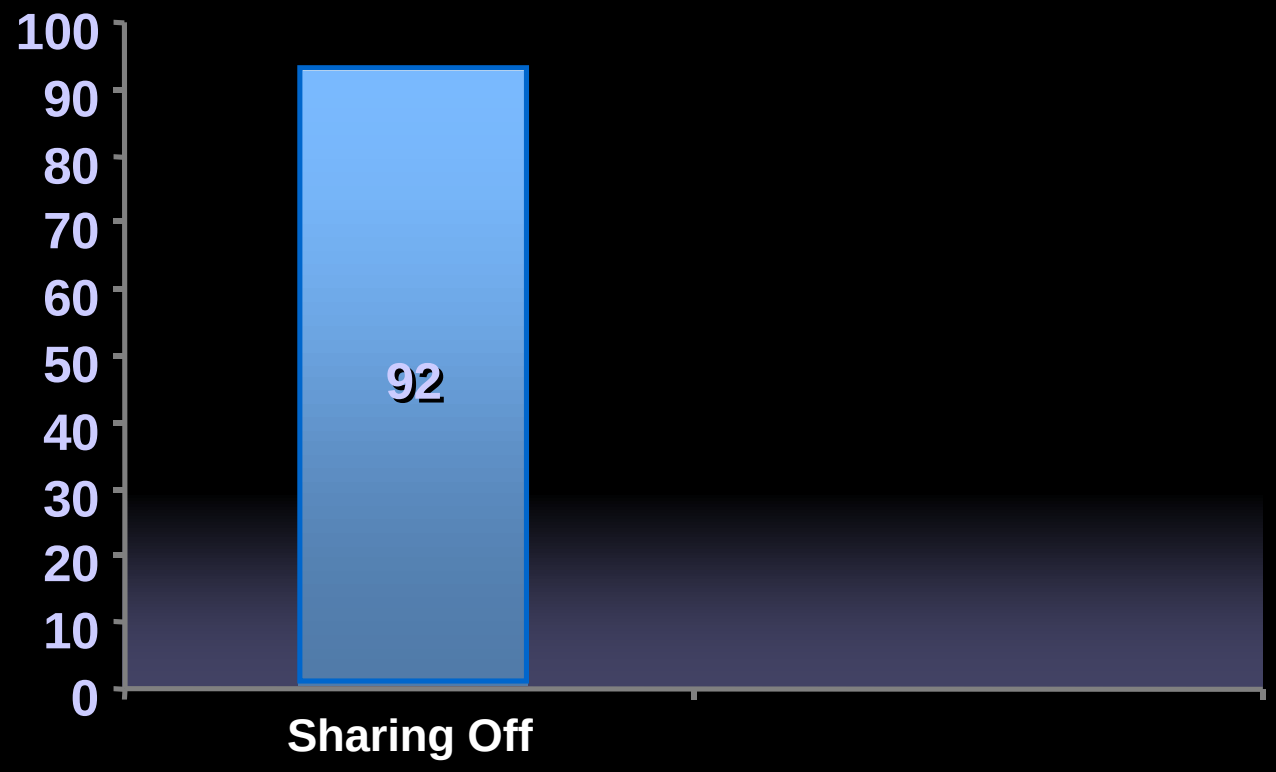
Performance

What's Hot?

- Shared Swing
  - Shared meta-data across applications
  - Launch time improvements
- Accelerated Swing

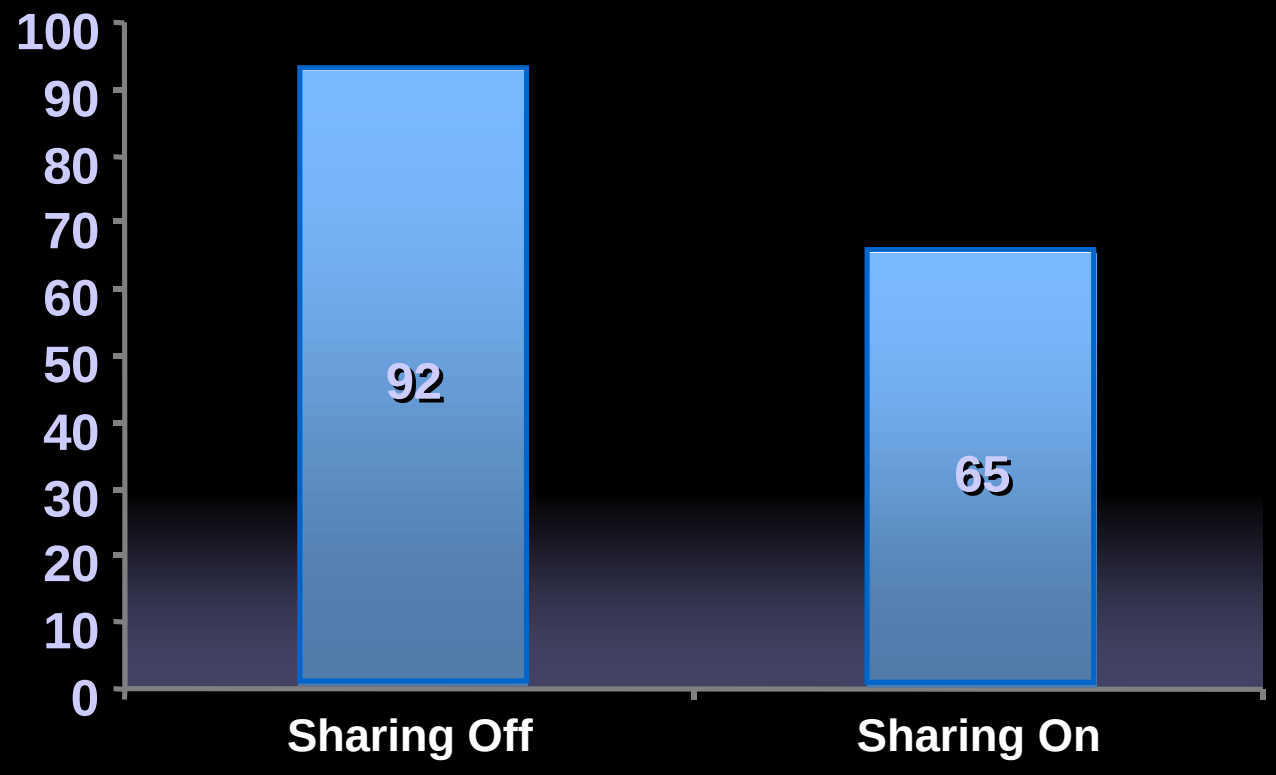
Shared Swing: 2 Applications

Running JBuilder and Moneydance



Shared Swing: 2 Applications

30% Less Resident Memory!



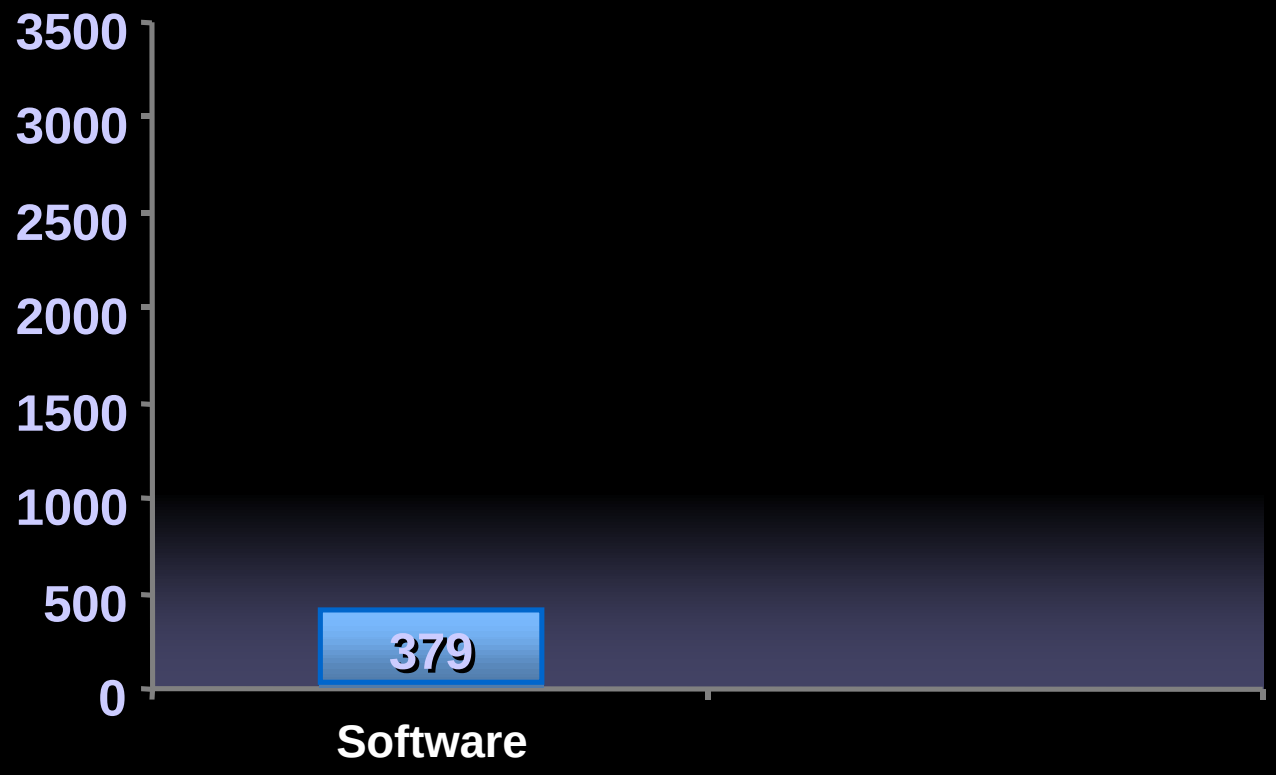
An industry first…

Hardware Accelerated Swing

If you're nice, we'll show you how to enable it :-)

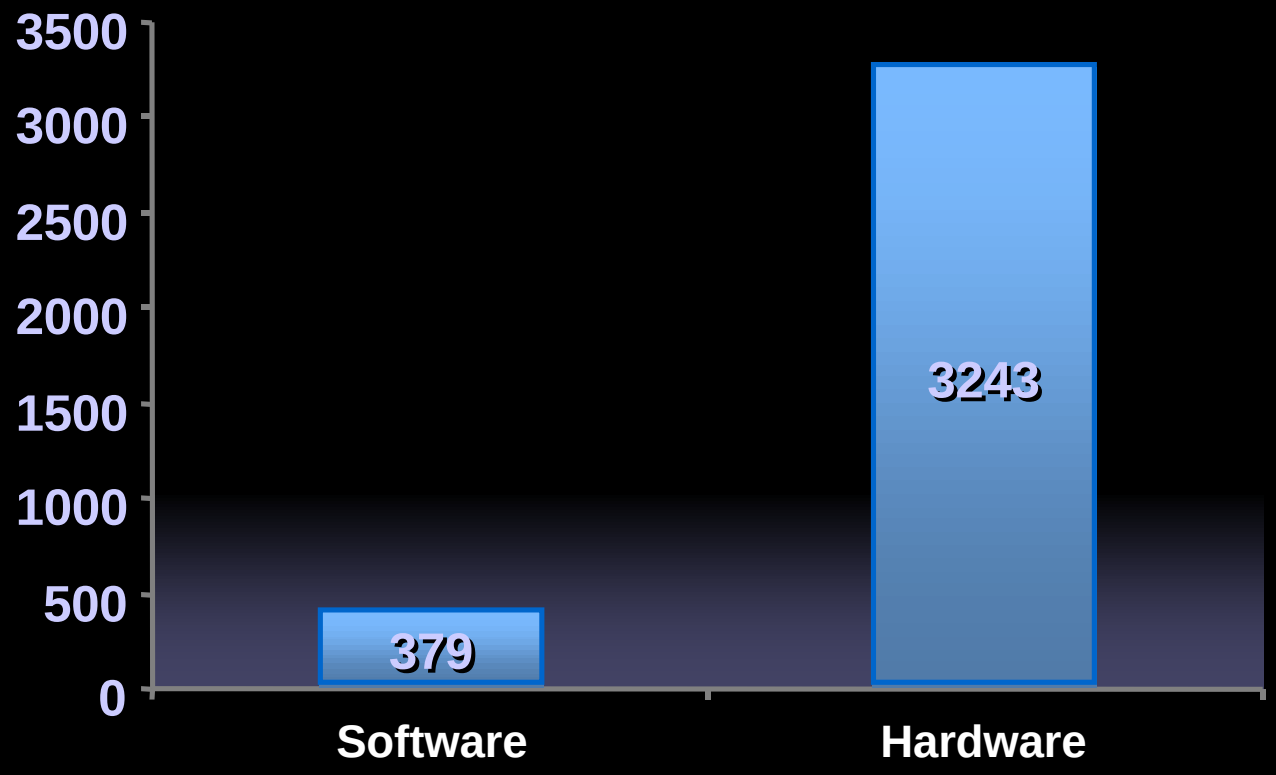
Accelerated Swing: CaffeineMark

Imaging score (500mhz G4/Radeon)



Accelerated Swing: CaffeineMark

Imaging score is 8.5 faster! (higher is better)

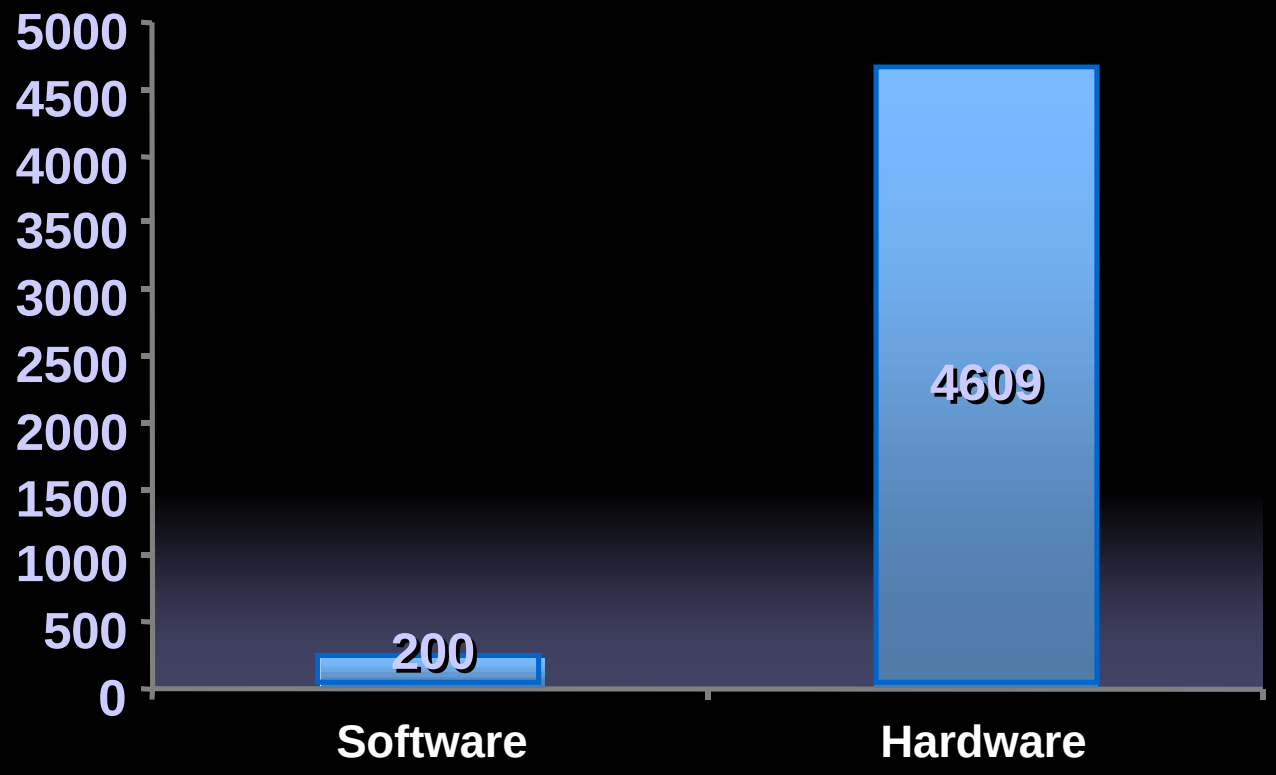


Accelerated Swing: CaffeineMark

Graphics score

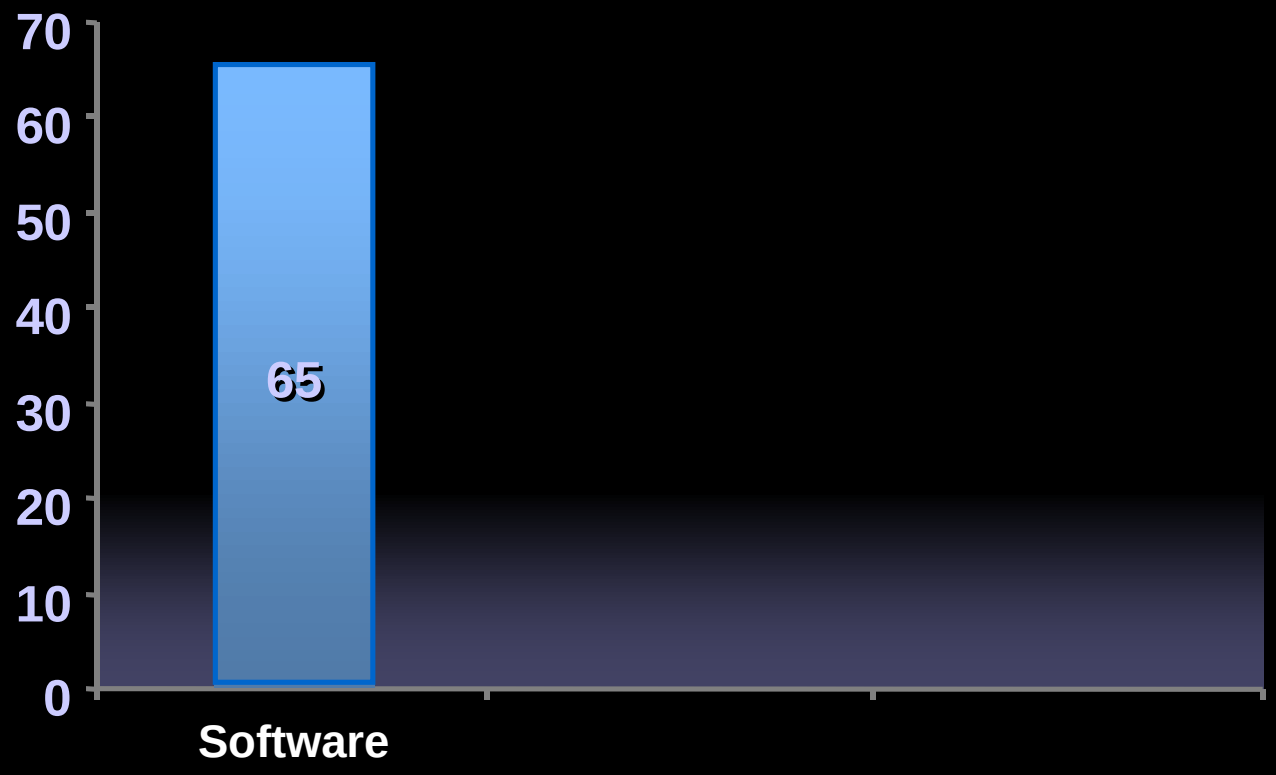
Accelerated Swing: CaffeineMark

Graphics score is 23x faster! (higher is better)



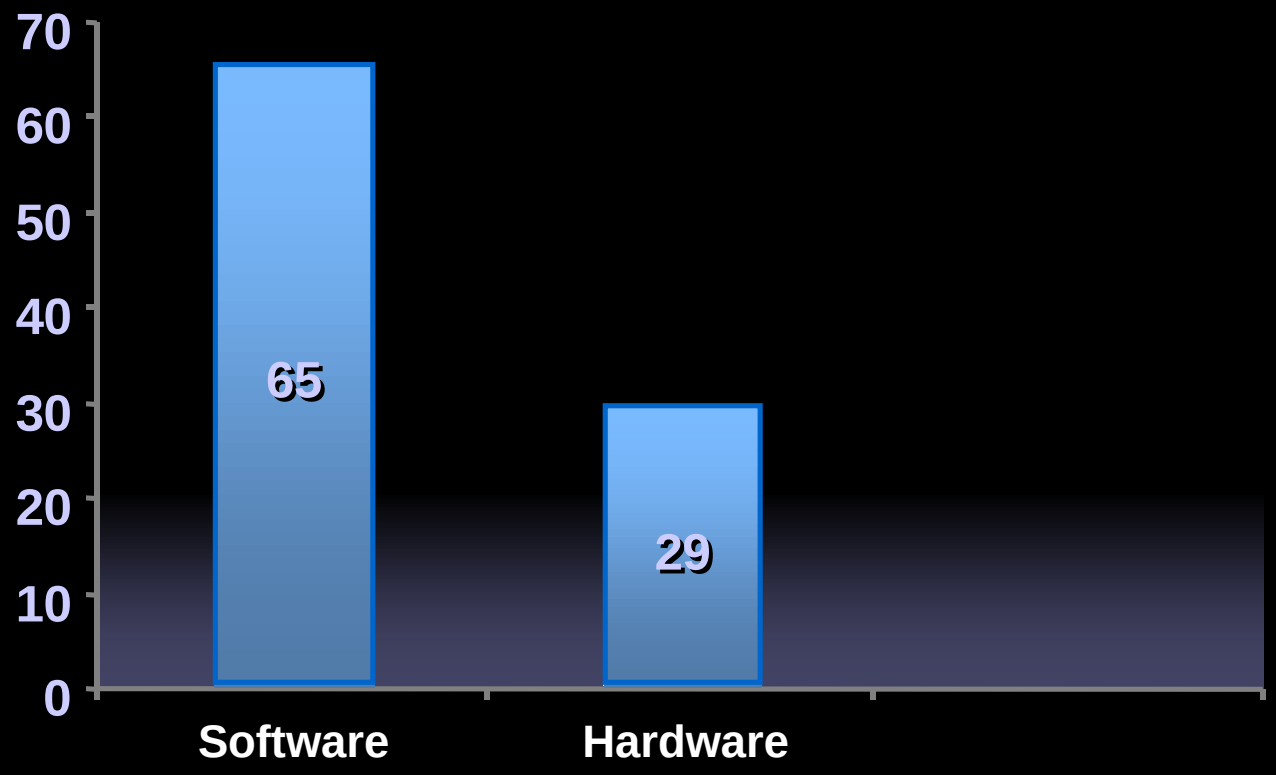
Accelerated Swing: SwingMark

500mhz G4/Radeon



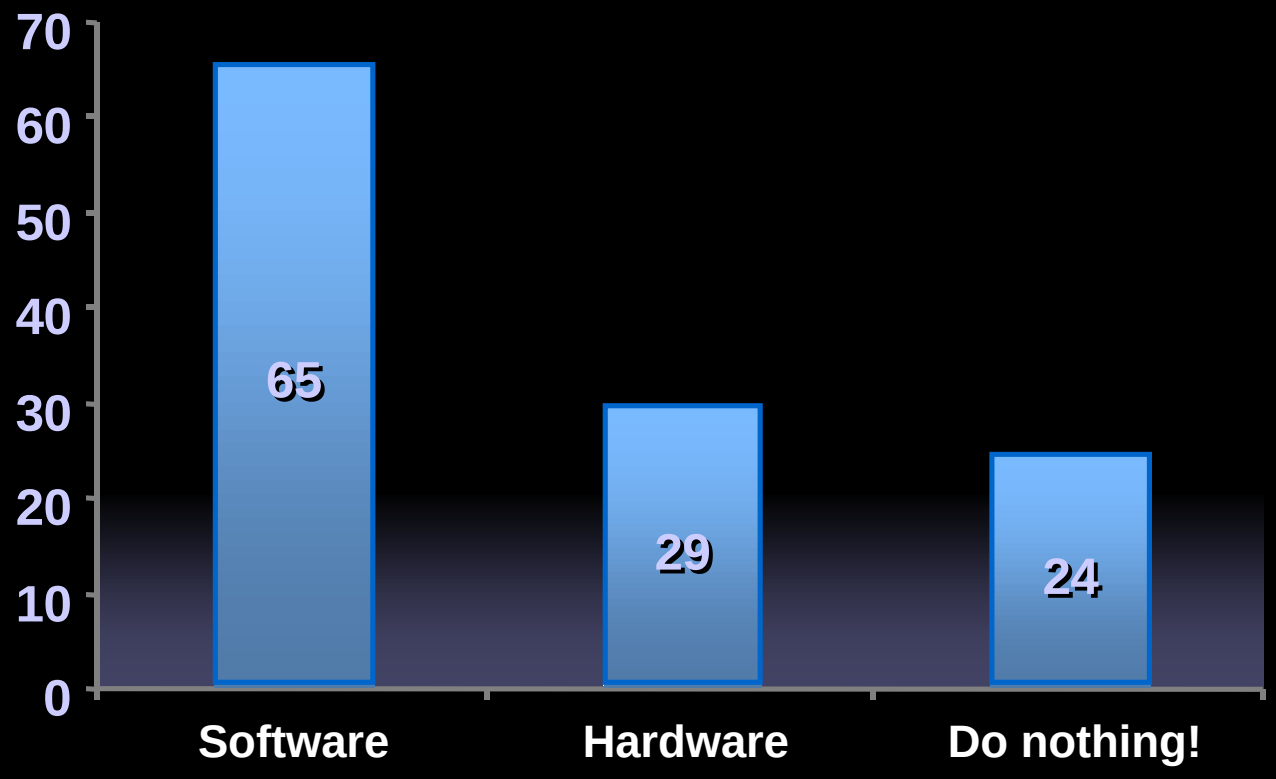
Accelerated Swing: SwingMark

55% faster! (lower is better)



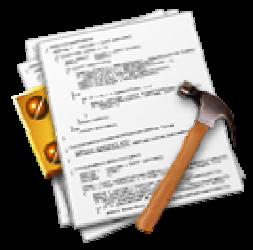
Accelerated Swing: SwingMark

If Graphics Were Infinitely Fast



Best-of-Breed Development Tools

Core Apple Tools



Project Builder

File Merge

Quartz Debug

- Integrated editor, builder, finder, browser, debugger
  - Multiple languages
  - Multiple frameworks
  - Multiple targets
- Extensible GUI Builder
- Graphical, side-by-side compare and merge

WebObjects 5

WebObjects Builder

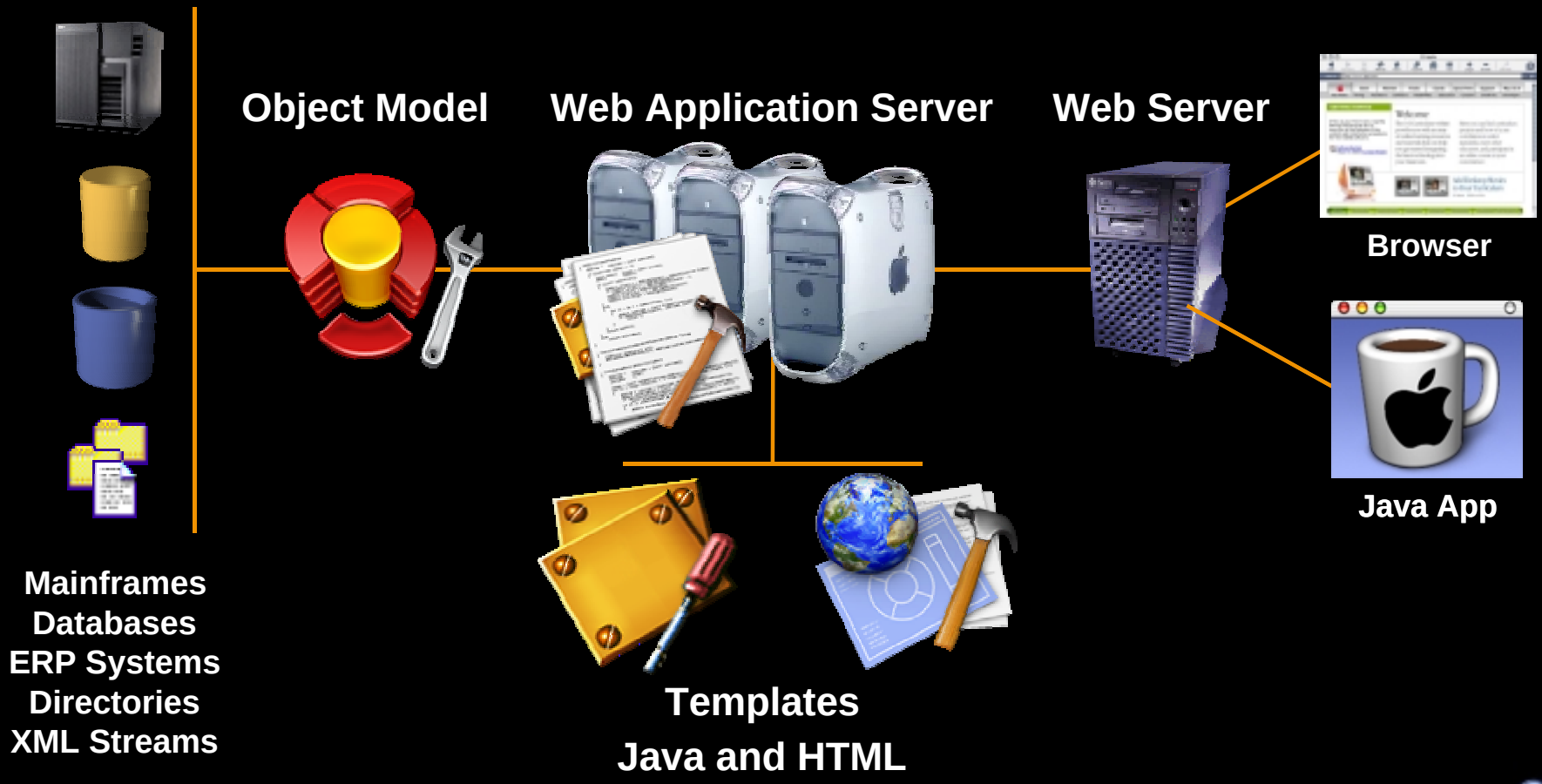
Interface Builder

EOModeler

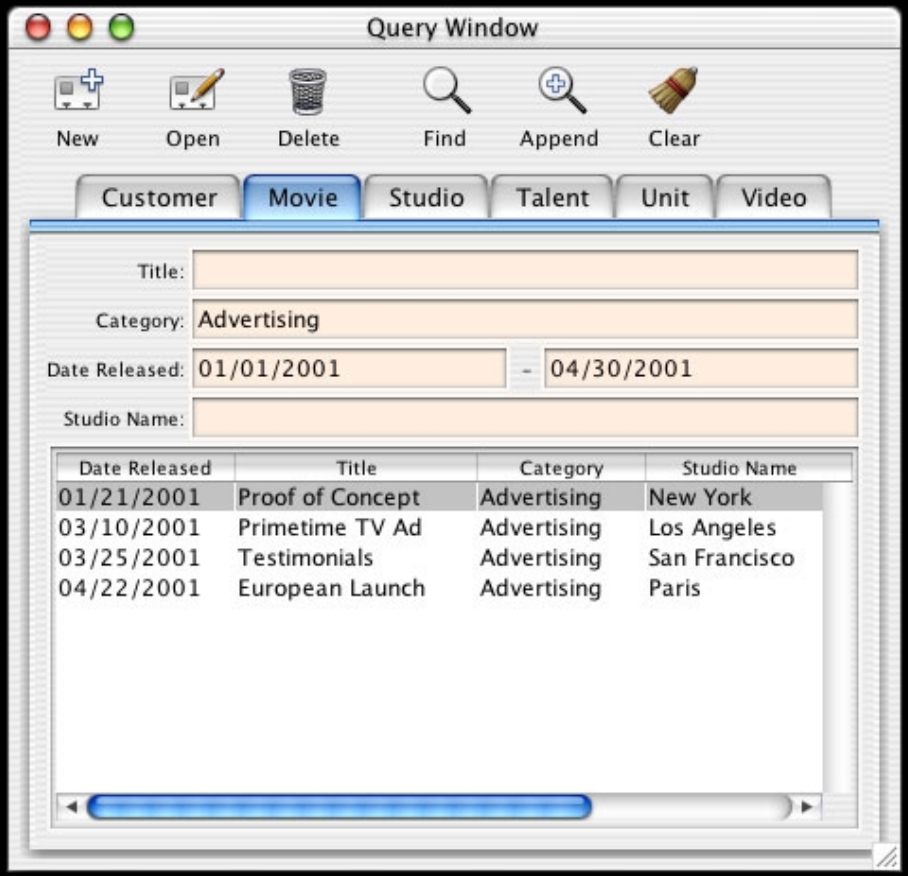
Rule Editor

- Streamlined page generation
- Automated data access
  - No need to write SQL!
  - Database independence
- Rich desktop application support
- Scalable Java deployment
- Integrated developer tools

Web Application Server



Rich Desktop GUI

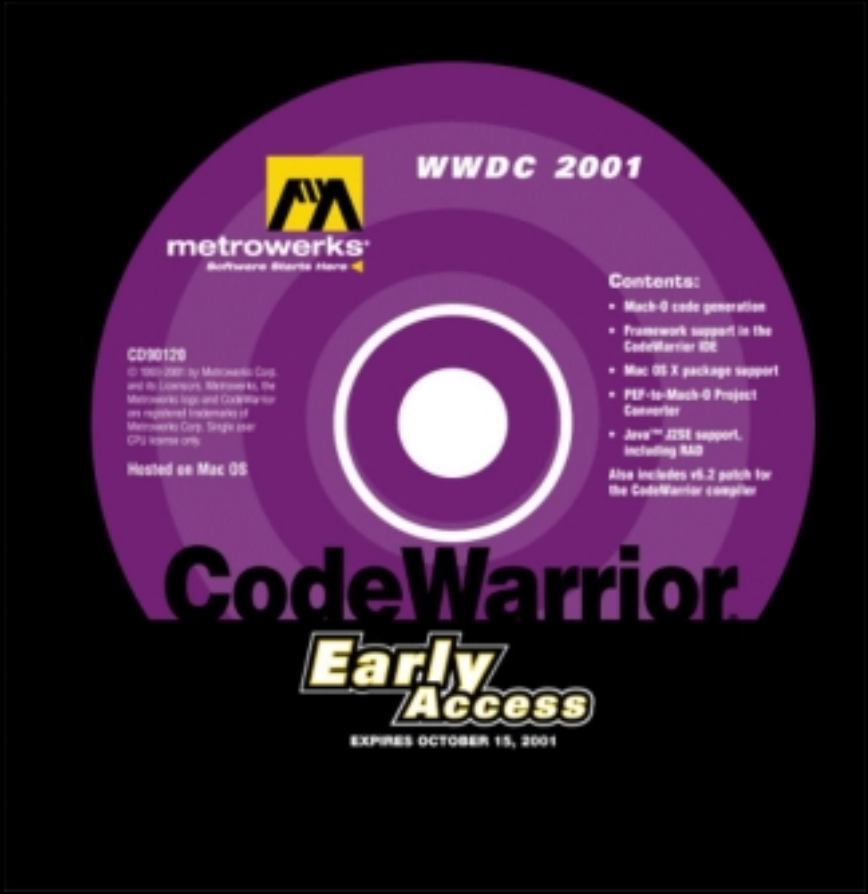


- Highly interactive user experience
- Client-side caching for great responsiveness
- Use Swing or Cocoa widgets

Rich Web GUI

iCards
Welcome to iCards, your place to send free, customized electronic postcards to everyone on your list. Choose from classic works of art and great photographs or use your very own photos from your iDisk.
It's Spring!
Holidays
Birthday
Love
NEW
"Thanks!"
Thank You
Vacation
PARTY
Invitations
Announcements
Get Well
Products
NEW
Just Because
Fine Art
NEW
Kids
Think different.
Nature
NEW
Members' Portfolio
iTools members create your own
iCards
Create Your Own
Learn More
About iCards.
To create an iCard, start by choosing a card category above. Select a card, pick a font and personalize your message.
Members' Portfolio
NEW
Showcase Your Talent.
In the Members' Portfolio category, submit your own artwork to become an iCard, or send an iCard created by other members of the iTools community.
Create Your Own.
Create an iCard.
If you're a member choose Create Your Own and you can use photos from your iDisk.
Copyright © 2000 Apple Computer, Inc. All rights reserved.
POWERED BY
WebObjects

CodeWarrior Pro 7 EA



- Java 2 Support!
- Full RAD Support
- Native Debugging
  - –Applications
  - –Applets

Java Deployment

- Multiplatform installation
- Multiplatform update
  - Easy to configure “policy”
- Java or native applications
- A great partner since ‘97

Java Performance Analysis

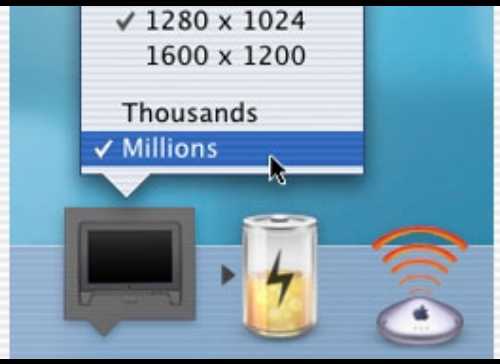
VM GEAR
TOOLS FOR JAVA PERFORMANCE

- Easy to use, scalable UI
- CPU, memory profiling
  - Leak detection
- No recompilation!
- Integration with JBuilder

Java Development

- Written entirely in Java
  - Tailored for Mac OS X
- Language sensitive editing
- Visual development
- Wizards to directly support J2SE and J2EE idioms
- Best selling, award winning

Borland Demo



Blake Stone
Chief Scientist, Borland

Closing Thoughts

Roadmap

501 Java Virtual Machine	Room A2 **Tues., 10:30am**
502 Wrapping Mac OS APIs in Beans	Room J2 **Tue., 5:00pm**
503 Java Development Tools	Room A1 **Wed., 10:30am**
504 Java Performance	Room C **Wed., 3:30pm**
505 JBuilder	Civic **Wed., 5:00pm**

Roadmap

506 Mac OS X Features for Java Apps	Room A2 **Thurs., 9:00am**
507 QuickTime for Java	Civic **Thurs., 2:00pm**
508 Java Graphics	Civic **Thurs., 3:30pm**
509 Java Security	Room J2 **Fri., 9:00am**
Java Feedback Forum FF117	J1 **Fri., 10:30am**

Who to Contact

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Apple WorldWide Developer Relations
bluker1@apple.com

http://developer.apple.com/events/urls.html

WWDC

Worldwide Developers Conference 2001